

1/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--X RAY EMISSION K SUBLATA SPECTRA OF SULFUR IN SOME SULFUR  
CONTAINING COMPOUNDS AND THEIR RELATION TO THE STRUCTURE OF THESE  
AUTHOR--(05)-NIKOLAYEV, A.V., MAZALOV, L.N., SADOVSKIY, A.P., GALTZOYA,  
E.A., MURAKHTANOV, V.V.  
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAU. NAUK SSSR 1970, 190(5), 113-16, CHEM.

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--X RAY EMISSION, SPECTRUM, SULFUR, CARBON DISULFIDE, MOLECULAR  
ORBITAL, MOLECULAR STRUCTURE, PALLADIUM COMPOUND, COORDINATION  
CHEMISTRY, CHEMICAL BONDING, SULFIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1588

STEP NO--UR/0020/70/190/005/1113/1116

CIRC ACCESSION NO--AT0116996

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

CIRC ACCESSION NO--AT0116996

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE X RAY EMISSION SPECTRA WERE REPORTED FOR CS SUB2 AND R SUB2 S WHERE R WAS SELECTED FROM ME, ET, BU, C SUB6 H SUB13, AND C SUB8 H SUB17. THE ELECTRON DS. WERE CALCD. AT THE S ATOMS IN THESE SUBSTANCES BY USING THE HUECKEL APPROXN. OF THE LCAO MO METHOD. FROM THE TABULATED DATA THE CHARGE ON THE S ATOM DECREASES IN COMPOS. IN WHICH IT IS POSSIBLE TO HAVE A PI BOND BETWEEN S AND THE ATTENDANT RADICAL. THE S CHARGE VALUES WERE AS FOLLOWS FOR R SUB2 S MOLS.: BU 1.975, ET 1.974, ME 1.974, PH 1.913; THE INDICES OF FREE VALENCE OF THE S ATOM WERE, RESP., 1.045, 1.045, 1.043, AND 0.844. SPECTRA WERE ALSO REPORTED FOR THE PRODUCTS OF EXTN. OF POCL SUB2 BY R SUB2 S WHERE R EQUALS PH OR C SUB6 H SUB13. IN THESE CASES THE PD-S BOND FORMATION CHANGES THE NATURE OF THE EMISSION SPECTRUM DRAMATICALLY RELATIVE TO R SUB2 S DWINING TO ELECTRON REDISTRIBUTION AND THEIR COORDINATION WITH PD. FACILITY: INST. NEORG. KHM..  
NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CALCULATION OF THE ABSOLUTE ENERGY OF X RAY EMISSION TRANSITIONS OF  
A HYDROGEN CHLORIDE MOLECULE IN AN APPROXIMATION OF THE UNIFIED ATOM  
AUTHOR-(05)--NIKOLAYEV, A.V., MAZALOV, L.N., MURAKHTANOV, V.V., SADOVSKIY,  
A.P., GUZHAVINA, T.I.  
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 144-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN CHLORIDE, X RAY EMISSION, ELECTRON SHELL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0595

STEP ND--UR/0020/70/191/001/0144/0147

CIRC ACCESSION NO--A0124282

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AT0124282  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENERGY OF EMISSION TRANSITIONS  
WERE STUDIED FOR THE HCl MOLE. TAKING INTO ACCOUNT THE DISTORTION OF THE  
ORBITALS DUE TO HOLES. THE RESULTS OF CALCNS. FOR 7 POSSIBLE HOLE  
CONFIGURATIONS ARE TABULATED. IT IS CONCLUDED THAT THE ENERGY BOUND IN  
THE DISTORTION OF THE ORBITAL IS RATHER LARGE AND CANNOT BE IGNORED,  
PARTICULARLY FOR HOLES IN THE INTERNAL SHELLS. FACILITY: INST.  
NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEPT0  
TITLE--ELECTROCHEMICAL REGENERATION OF ION EXCHANGE COLUMNS DURING  
TRANSVERSE CIRCULATION OF AN EQUILIBRIUM SOLUTION -U-  
AUTHOR--GREBENYUK, V.D., GNUSIN, N.P., BARMASHENKO, I.B., MAZANKO, A.F.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(1) 139-42

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ION EXCHANGE RESIN, ELECTROCHEMISTRY, ION, CHEMICAL  
EQUILIBRIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1987/0319

STEP NO--UR/0364/70/006/001/0139/0142

CIRC ACCESSION NO--AP0103974

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103974

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REGENERATION OF ION EXCHANGERS IS EXPRESSED BY AN EQUATION THAT RELATES THE AMT. OF IONS REPLACED WITHIN A CERTAIN TIME TO THE MOBILITY OF THE ION, THE ION CONTENT IN THE ION EXCHANGER, AND THE CURRENT. THE EXPTL. RESULTS AGREE WELL WITH THE EQUATION.

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UDC 681.327.66.002.72

ATOVM'YAN, A. E., ANFIMOV, M. A., V'YUGIN, V. A., KOLOBASHKIN, N. I., LITVAN,  
A. B., MAZAN'KO, B. P., AND SOLOV'YEV, V. A.

"Device for Checking Bunched Conductors"

USSR Author's Certificate No 277858, filed 27 May 69, published 6 Nov 70  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun  
71, Abstract No 6 B153 P)

Translation: A testing device containing a memory, coincidence circuit, and a display circuit is well known. This device does not provide for automation of control of bunched conductors during the manufacturing process. The proposed device for similar purpose is distinguished by the fact that it contains two ferrite cores with an open magnetic conductor, into one of which wires corresponding to the code "1" are introduced, and into the other, wires corresponding to the code "0." These are the primary coils of transformers the secondary windings of which are connected to the first input of each of two coincidence circuits respectively. The second input of each coincidence circuit is connected to the memory output, and their outputs are connected to the interrogation device connected to the conductors of the tested bunched conductors and the interrogation current control circuit. The control of the bunched conductors during the production process is automated in this way.

There is 1 illustration.  
1/1

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(3)

USSR

UDC 628.58:549.74

ABDULLAYEV, G. B., GASANOV, G. G., MEKHTIYEV, M. A., DZHAFAROV, A. I.,  
MAZANOV, D. M., BABAYEV, R. A., SADYKHOV, S. T., TEPLYAKOVA, G. V., and  
RAGIMOV, R. N.

"Radioprotective Effect of Selenium"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 12-17

**Abstract:** Sodium selenite administered to Wistar rats 20 minutes after X-irradiation at 490 rad had little protective effect, the survival rate and average life-span being insignificantly higher than in the controls (50% survival rate by day 30). However, the same dose of the compound administered 30 minutes prior to irradiation (intraperitoneally, subcutaneously, or perorally) had a markedly protective effect; the survival rate was 90% and the average life-span 28+3.6 days. When sodium selenite was combined with vitamins E (as an antioxidant) and A (to promote the retention of vitamin E in the body), the protective effect was even more pronounced, the survival rate and average life-span being significantly higher than in the controls (given selenium but not the vitamins).

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USSR

UDC 662.998

DZHIGIRIS, D. D., Candidate of Technical Sciences, DEM'YANENKO, YU. N.,  
Engineer, MAKHOVA, N. F., Candidate of Technical Sciences, GUDENSKIY, O. S.,  
Engineer and NAZANOVA, N. I., Engineer

"Thermally Insulating Plates Based on Superfine Basalt Fibers"

Moscow, Stroitel'nyye Materialy, No 12, Dec 73, pp 19

**Abstract:** The basalt superfine fibers (BSFF) have a diameter less than 2 microns. These fibers are the base for the preparation of a soft, very effective insulation material which may be used in the temperature range -200 to +700° C. The BSFF have a high resistance to vibrations, acid, and steam. Values for specific volume, bonding hydroscopic tendency and rigidity are given as a function of plate thickness from 2 to 9.8 mm. The plates are prepared from a polyvinylacetate emulsion having a fiber concentration of 1.5 to 5 g/l of the BSFF. The plates were dried with a corresponding loss of weight of between 0.2-0.3%. These BSFF plates have the advantage of being composed of readily available materials and of having a short processing time -- 2-3 times less than that presently required for processing.

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1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--THE HEMODYNAMICS IN COUNTER PULSATION -U-

AUTHOR-(05)-CHAZOV, YE.I., BOGOSLOVSKIY, V.A., MAZAYEV, V.P., RUDA, M.YA.,  
TRUBETSKOY, A.V.  
COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 2, PP  
23-30  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART RATE, BLOOD PRESSURE, HEMODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0642

STEP ND--UR/0481/70/000/002/0023/0030

CIRC ACCESSION NU--AP0108853

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--APO108853

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER THE INFLUENCE OF COUNTER PULSATION THE HEART RATE DROPS SLIGHTLY, THE MAXIMAL AND MEAN SYSTOLIC ARTERIAL PRESSURE DECLINES AND MAXIMAL DIASTOLIC ARTERIAL PRESSURE INCREASES. THE RISE OF THE MEAN DIASTOLIC ARTERIAL PRESSURE WAS LESS MARKED BUT WAS STATISTICALLY SIGNIFICANT. THERE WAS AN ESSENTIAL DROP OF THE TERMINAL DIASTOLIC ARTERIAL PRESSURE AND NO CHANGES OF THE MEAN ARTERIAL PRESSURE. INCREASE OF THE CARDIAC OUTPUT AND ACCELERATION OF THE CIRCULATION RATE WERE INSIGNIFICANT. THE EXTERNAL WORK OF THE LEFT VENTRICLE AGAINST THE BACKGROUND OF COUNTER PULSATION COMPRISED ONLY 84PERCENT FROM THE INITIAL VALUE. THE TIME CONTRACTION INDEX DECREASED BY 24PERCENT. THE GENERAL PERIPHERAL RESISTANCE AGAINST THE BACKGROUND OF ASSISTED PERFUSION MADERATELY DECLINED. THE AUTHORS SHOW THAT A NUMBER OF GENERALLY ACCEPTED INDICES COULD NOT ADEQUATELY REFLECT THE FUNCTIONAL STATE OF THE HEART DURING COUNTER PULSATION. A REGULARITY WAS NOTED THAT THE INFLUENCE OF PERfusion ON ALL NEMODYNAMIC INDICES BECOME MORE PRONOUNCED SOME TIME AFTER THE BEGINNING OF PERfusion.

FACILITY: INSTITUT KARDIOLOGII IM. A. L. MYASNIKOVA AMN SSSR, MOSCOW.

UNCLASSIFIED

1/2 006  
TITLE--LONG RANGE REQUIREMENTS OF AGRICULTURE FOR MAGNESIUM FERTILIZERS  
-U-

AUTHOR--MAZAYEVA, M.M.

COUNTRY OF INFO--USSR

SOURCE--KHM. SEL. KHOZ. 1970, 3(4), 262-9

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--SOIL CHEMISTRY, SOIL STRUCTURE, MINERAL FERTILIZER, MAGNESIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605002/003 STEP NO--UR/0394/70/008/004/026270069

CIRC ACCESSION NO--AP0139449

LINE ASSIGNED

2/2 006

UNCLASSIFIED

PROCESSING DATE--0406070

CIRC ACCESSION NO--APO139449

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GROWTH TESTS WERE CONDUCTED WITH A REPEATEDLY USED SOIL SAMPLE FOR DETG. THE BALANCE OF READILY ASSIMILABLE MG IN SOIL AFTER 5-6 YEARS OF ITS AGRICULTURAL UTILIZATION. THE EFFECT OF MG NUTRITION ON THE CROP YIELD WAS ALSO STUDIED, DETG, THE GRAIN CROP FROM SOIL SAMPLES FERTILIZED AND NOT FERTILIZED WITH MG. INVESTIGATIONS INVOLVED VARIOUS TYPES OF SOIL WITH INSUFFICIENT CONTENTS OF READILY ASSIMILABLE MG (SANDY AND SANDY LOAM PODZOLIC AND SOD PODZOLIC SOILS, GRAY FOREST, FOREST STEPPE, Krasnozem AND SUB TROPICAL PODZOLIC SOILS), USING MILLET AS EXPTL. PLANT. FERTILIZERS IN THE FORM OF COMPOS.: NH SUB4 NO SUB3, CAHPO SUB4, K SUB2 SO SUB4, MGO SUB4 AND H SUB3 BO SUB3 WERE APPLIED EACH YEAR BEFORE SOWING IN AMTS.: N 0.12, P SUB2 O SUB5 0.32, K SUB2 O 0.25 AND MGO 0.15 G-POT AND TWICE DURING THE GROWTH STAGE IN AMTS.: N 0.12, MGO 0.15 AND B 1 MG-POT EACH TIME. FOR MANY SOILS THE RATE OF TRANSITION OF MG LOW SOL. FORMS INTO READILY ASSIMILABLE ONES WAS FAR SLOWER THAN THE RATE OF MG ASSIMILATION BY PLANTS, AND, AS A RESULT, THE MG DEFICIT BECAME HIGHER AND HIGHER; THIS REFERRED ESP. TO LIGHT SOILS OF SOD PODZOLIC REGIONS WITH CONTENTS OF READILY SOL. MG BELOW THE CRIT. CONTENT (7-8 MG MGO-100 G OF SOIL), AS WELL AS Krasnozem AND SUBTROPICAL SOILS WITH THE CRIT. CONTENT OF READILY ASSIMILABLE MG 10-12 MG MGO-100 G OF SOIL.

UNCLASSIFIED

USSR

UDC: 51:155.01.57:681.3.06

GLADUV, V. P., MAZAYEVA, S. P., SAVA, I. G.

"Experiments on Pattern Recognition Using Growing Networks"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 63-69 (from RZh-Kibernetika, No 12, Dec '71, Abstract No 12V1001)

Translation: An algorithm for teaching growing networks to recognize patterns is described. A method of realizing this algorithm in the form of a computer program is considered together with digital computer experiments which illustrate operation of the algorithm. Authors' abstract.

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"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1

1/2 013

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE—ON THE PROBLEM OF POSSIBLE ELIMINATION OF THE HOST PROTECTIVE  
MECHANISM SUPPRESSION CAUSED BY CERTAIN ANTITUMOR ANTIBIOTICS -U-

AUTHOR—MAZAYEVA, V.G.

COUNTRY OF INFO--USSR

M

SOURCE—ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 447-449

DATE PUBLISHED—70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—ANTIBIOTIC, ANTI NEOPLASTIC DRUG, WHITE MOUSE, WHITE RAT,  
TUMOR, TISSUE TRANSPLANT, SARCOMA

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—1994/1132

STEP NO--UR/0297/10/015/005/0447/0449

CIRC ACCESSION NO—AP0115151

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1"

2/2 013

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115151

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS WITH NON BREED ALBINO MICE AND RATS SHOWED THAT 3 FOLD ADMINISTRATION OF ANTITUMOR ANTIBIOTICS, SUCH AS OLIVOMYCIN, CHRYSOMALLIN OR RUBOMYCIN IN THERAPEUTIC DOSES TO THE ANIMALS IMMEDIATELY BEFORE TRANSPLANTATION OF TUMORS PRODUCED A CERTAIN SUPPRESSING EFFECT ON THE HOST PROTECTIVE MECHANISM EVIDENT FROM AN ACCELERATED GROWTH OF TUMORS (SARCOMA 37 OF MICE AND SARCOMA 45 OF RATS). OUT OF THE ANTITUMOR ANTIBIOTICS STUDIES OLIVOMYCIN SUPPRESSED THE MOST PROTECTIVE MECHANISM TO THE GREATEST EXTENT, WHILE PRODIGIOZAN ADMINISTERED IN A SINGLE DOSE ALMOST COMPLETELY ELIMINATED THE ANTIBIOTIC SUPPRESSING EFFECT.  
FACILITY: LABORATORY OF ANTITUMOR ANTIBIOTICS OF INSTITUTE FOR EXPERIMENTAL AND CLINICAL ONCOLOGY, MOSCOW.

UNCLASSIFIED

USSR

MAZEL', A. G., POLUZ'YAN, ZH. A., and NIKOLAYEVA, T. I.

"Technological Measures Associated With Pipeline Welding Under Winter Conditions"  
Moscow, Stroitel'stvo Truboprovodov, No 11, 1970, pp 31-33

**Abstract:** The authors present the technological measures for welding pipelines made from complex alloyed steel with a high carbon equivalent and with a wall thickness greater than 15 mm. These measures include: preheating, use of a heat-insulating belt, and increasing linear energy during welding. The following graphs are given: temperature in the weld as a function of cooling time after preheating for various metal thicknesses and the effect of a heat insulating belt on the cooling of a weld. A table is given for the relationship between welding time and number of welders. Diagrams are also given for the temperature distribution along the seam perimeter of 1420-mm-diameter pipes with 17-mm wall during welding using the continuous separation method with UONI 13/55 electrodes and for the volume variation of the molten metal pool as a function of initial temperature. Formulas are derived which make it possible to determine the degree of increase needed in arc output or the decrease in the rate of welding so that the molten metal pool and, consequently, the temperature regime associated with seam formation at negative temperatures will be the same as at positive temperatures ( 20°). Original article: four figures, one table, two formulas, and six bibliographic entries.

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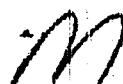
UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--THE OPERATION OF STEAM LINES MADE FROM 12MKH AND 15 KHM STEELS AT  
HIGH PRESSURE ELECTRIC POWER STATIONS AFTER A STANDARD SERVICE LIFE -U-

AUTHOR--(05)-ZLEPKO, V.F., MAZEL, R.YE., KRUTASOVA, YE.I., ZAKHAROVA, A.I.,  
VORONOV, N.P.

COUNTRY OF INFO--USSR



SOURCE--MOSCOW, TEPLOENERGETIKA, NO. 2, 1970, PP 55-58

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--LOW ALLOY STEEL, ELECTRIC POWER PLANT, THERMOELECTRIC POWER  
PLANT, STEAM BOILER, STEAM TURBINE, STEEL PIPE, PIPE LINE, CHROMIUM  
STEEL, MOLYBDENUM STEEL, RESEARCH FACILITY, ALLOY DESIGNATION/(U)12MKH  
LOW ALLOY STEEL, (U)15KHM LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0355

STEP NO--UR/0096/70/000/002/0055/0058

CIRC ACCESSION NO--AP0117592

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--16 OCT 70

CIRC ACCESSION NO--AP0117592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON PROLONGED TESTS, CONDITIONS WERE ESTABLISHED UNDER WHICH STEAM LINES MADE FROM 12MKH AND 15KHM STEELS, WHICH HAD OPERATED 100,000 HOURS, COULD BE AUTHORIZED FOR FURTHER OPERATION. ONE TABLE, SEVEN ILLUSTRATIONS, BIBLIOGRAPHY CONTAINS THREE CITATIONS. FACILITY: ALL UNION INSTITUTE OF HEAT ENGINEERING AND THE EASTERN BRANCH OF THE ALL UNION INSTITUTE OF HEAT ENGINEERING.

UNCLASSIFIED

MAZEL', S. I.

32: JPRS 66598  
30 NOVEMBER 73

*(Handwritten Coder)*

*CAROL*

## GUIDE TO BURIED COMMUNICATIONS CABLE INSTALLATION

P. Gerasimov, S. A. Karpov, D. A. Baranov, B. I. Gurevich, V. I. Zaitsev,  
V. N. Shchegolev, G. M. Zhuravlev, and L. S. Savchenko  
Moscow, Sovetskaya Rossiya, Radio Press Publishing House

## 1.4. Main-Line High-Frequency Symmetrical Cables

## Types of Cables

For main-line communications, the following types of cables are used: HSC, with cordel-styroflex insulation in a lead casing; HSC, with cordel-styroflex insulation in an aluminum casing; and HSC, with cordel-paper insulation in a lead casing.

These cables are fabricated in a spiral quad, and the diameter of the wires is 1.2 mm, the capacitance 1.4, 4x4 and 7x6.

HSC Cables with Cordel-styroflex Insulation in a Lead Casing (GOST (All-Union State Standard) 9046-59;

Main-line HSC cables with cordel-styroflex insulation in a lead casing

intended for main cable lines, multiplexed with K-60 high-frequency apparatus in the spectrum of frequencies up to 252 kilohertz with a remote power supply of up to 750 volts direct current and KHS multiplexing, in the spectrum up to 552 kilohertz. The cables are produced with 1.4 or 7 high-frequency quads. From this, 4x4 cables may have five signal wires, and 7x6 cables 6 signal wires. The diameter of the copper current-conducting wires is 0.9 mm. Depending upon the type of protective covering, the cables are marked as follows: HSCG, in a lead casing, bare; HSCB, lead casing protected by a polyvinyl chloride hose or ribbons; HSCK, armored with round wires; HSCV, armored with round wires, lead casing protected by polyvinyl chloride hose or ribbons.

Magnesium

USSR

UDC 669.71.053.4.667

VOLKOVA, N. S., MAZEL', V. A., KOZLOVA, V. P., PROKHOROV, S. T.

"Effect of the Specific Surface of Magnesium Oxide on the Kinetics of Desiliconization of Aluminate Solutions"

Tr. Vses. n.-i. i proyektn. in-ta alumin., magn. i elektroda, prom-sti  
(Works of the All-Union Scientific Research and Planning and Design Institute  
of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 161-171 (from  
RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G148)

Translation: The specific surface of MgO is lowered with an increase in temperature from 500 to 1,100° and with an annealing time from 1 to 4 hours. MgO obtained at 500° for 2 hours has the highest specific surface and quenching rate. The index of light refraction increases from 1.682 to 1.728 with an increase in the annealing temperature from 500 to 1,100° and during a time period from 1 to 6 hours. The nature of the rings on the electron diffraction patterns and electron microscope pictures of the obtained MgO samples indicate consolidation of the fine particles as the annealing temperature of the basic Mg carbonate increases. The desiliconizing capacity of MgO depends on its specific surface. MgO has a higher desiliconizing capacity than CaO. As the CaO content in the additive is increased (with 1/2

USSR

VOLKOVA, N. S., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magaz. i  
elektrodn. prom-sti, 1970, No 70, pp 161-171

a total amount of mixture of 5 g/liter), the degree of desiliconization drops.  
In the presence of carbonate alkali (10 gram/liter), the desiliconizing  
capacity of MgO drops. There are 8 illustrations, 2 tables and a 7-entry  
bibliography.

2/2

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USSR

UDC 669.71.05\$.4

RAYVICH, Zh. B., MAZEL', V. A.

"Comparison of Transient Processes of an Evaporation Plant and a Mathematical Model"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 70, pp. 145-152. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G147 by the authors).

Translation: A method is suggested for comparing the transient processes of an evaporation plant and its mathematical model. An algorithm is composed for solution of the system of equations which make up the dynamic model of a multiple-unit evaporation plant. The data of two experiments are used to compare the transient processes in a three-unit evaporation plant with mixed flow and its model. 2 figs; 2 tables.

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1/2 007

TITLE--EFFECT OF ACTIDION, PUROMYCIN AND CHLORAMPHENICOL ON P PRIME32 AND  
K PRIME42 UPTAKE BY MAIZE ROOTS -U-

AUTHOR--(02)-KHAVKIN, E.YE., MAZEL, YU.YA.

UNCLASSIFIED

PROCESSING DATE--23 OCT 70

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGIYA RASTENIY, 1970, VOL 17, NR 3, PP 452-457

DATE PUBLISHED-----70

M

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CEREAL CROP, PHOSPHORUS ISOTOPE, POTASSIUM ISOTOPE, PLANT  
CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1145

CIRC ACCESSION NO--APO123129

STEP NO--UR/0326/T0/017/003/0452/0457

UNCLASSIFIED

2/2 007

CIRC ACCESSION NO--AP0123129

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ROOTS OF INTACT TWO AND THREE DAY OLD MAIZE SEEDLINGS WERE PLACED IN A SOLUTION CONTAINING P PRIME32 AND AN INHIBITOR OR WERE PREINCUBATED IN THE INHIBITOR SOLUTION AND THEN KEPT IN THE SOLUTION WITH P PRIME32 (OR K PRIME42) AND THE INHIBITOR. AFTER 2.5 TO 6 HOURS INCUBATION ACTIDION (0.25-1 MG-L) PRONOUNCEDLY INHIBITED P PRIME32 AND K PRIME42 UPTAKE BY THE ROOTS. THE INHIBITING ACTION OF PUROMYCIN (100 MG-L) ON P PRIME32 UPTAKE WAS MANIFEST AFTER 6 HOURS INCUBATION. D AND L TREG CHLORAMPHENICOL (1 G-L) APPRECIABLY STIMULATED P PRIME32 ABSORPTION AFTER A 1.5-3.0 HOUR INCUBATION PERIOD BUT DID NOT HAVE ANY EFFECT AFTER A LONGER PERIOD. IN THE AUTHORS OPINION THE COMPARATIVELY LATE SUPPRESSION OF ION UPTAKE BY ACTIDION AND PUROMYCIN SHOULD BE CONSIDERED AS A NONSPECIFIC GENERAL EFFECT OF INHIBITION OF PROTEIN SYNTHESIS AND VIOLATION OF GROWTH AND THE GENERAL METABOLISM OF THE ROOT. IT DOES NOT SEEM PROBABLE THAT INHIBITION OF PROTEIN SYNTHESIS SELECTIVELY VIOLATED THE CELL PERMEABILITY OR SYNTHESIS OF SPECIFIC CARRIER PROTEINS.

UNCLASSIFIED

USSR

UDC 547.241

FESHCHENKO, N. G., MAZEPA, I. K., ZHILA, S. I., and KIRSANOV, A. V.,  
Institute of Organic Chemistry, Ukrainian Academy of Sciences

"Hexaalkyliodobiphosphonium Pentaiodides"

Leningrad, Zhurnal Obschey Khimii, Vol 41, No 11, Nov 1971, pp 2,375-2,378

**Abstract:** The highly reactive hexaalkyliodobiphosphonium pentadioxides (I), formed during alkylation of phosphorus diiodide or of red phosphorus in the presence of iodine, are not well known. The authors tested the reactions of compounds (I) with a number of substances: water, alcohols, phenetole, diisopropyl and dibutyl ethers, tetrahydrofuran, and tricyclohexylphosphine. It was concluded that compounds (I) are very reactive both toward electrophilic (sulfur) and with nucleophilic (metals, water, alcohols, trialkylphosphines) agents.

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USSR

UDC: 547.241'546.321.07

MAZEPA, I. K., YEVCHENKO, N. G., KIREMOV, A. V., Institute of Organic Chemistry,  
Academy of Sciences of the Ukrainian SSR

"A Method of Producing Trialkylphosphine Sulfides"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Sraztzy, Upravleniye Izobr., No. 36,  
1970, Sov. U. Patent No 276691, Class 12, filed 11 Jun 69, p.24

**Abstract:** This Author's Certificate introduces: 1. A method of producing trialkylphosphine sulfide. As a distinguishing feature of the patent, the process is simplified by interacting alkyl iodide with red phosphorus with the application of heat in the presence of iodine followed by sulfur treatment of the reaction mass and isolation of the goal product by conventional methods. 2. A modification of this method distinguished by the fact that the process is carried out at the boiling point of the reaction mixture.

1/1

TITLE--CONTENT OF ZINC AND ACTIVITY OF CAREB ANHYDRASE IN TISSUES OF AN  
ORGANISM WITH EXPERIMENTAL LEUCOSIS -U-  
PROCESSING DATE--03JUN7C  
AUTHOR--BABENKO, C.C., MAZEPA, I.V.

COUNTRY OF INFO--USSR

SCUSCE--UKRAYINS'KIY SICKHIMICHNIY ZHURNAL, 1970, VCL 42, N<sup>o</sup> 1, PP 108-112  
DATE PUBLISHED-----7C.

26  
33

SELECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--WHITE RAT, ZINC, BLOOD CHEMISTRY, LIVER, SPLEEN, BONE, BLOOD  
SERUM, FLUOROGRAPHY, MUSCULOSKELETAL SYSTEM

CENTRAL MARKING--AC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PREGY REEL/FRAME--1979/C861

STEP AC--LR/0300/70/042/001/0108/0112

CIRC ACCESSION AC--APCC47337

UNCLASSIFIED

Acc. Nr: AP0047337

Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichniy Zhurnal, 1970,  
Vol 42, Nr 1, pp 108-112

CONTENT OF ZINC AND ACTIVITY OF CARBON ANHYDRASE  
IN TISSUES OF AN ORGANISM WITH EXPERIMENTAL LEUCOSIS

G. O. Babenko, I. V. Mazepa  
Medical Institute, Ivano-Frankivsk

Summary

In experiments with 195 albino mongrel rats with the transplanted Shvets erythro-myelosis dynamics of the quantitative content of zinc in blood and its fractions, liver, spleen, bones and muscular tissue, the form in which this metal is present in blood serum and liver as well as activity of carbon anhydrase of blood were studied in the development.

The content of zinc in blood and organs was determined by the polarographic method by Babenko, the activity of carbon anhydrase — by the method of Vendt and coauthors blood serum and liver was obtained by filtration through collipidal sacks.

It is established that concentration of zinc in blood and serum lowers with the development of the leucosis process.

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The content of zinc, being in the blood serum in a form which is not found with protein components, sharply increases with leucosis, that is especially pronounced in the period of generalization and terminal states of the mentioned disease. The content of zinc in the formed elements is not essentially changed in the development of the leucosis process.

The activity of carbon anhydrase of blood in the process of leucosis development in rats is sharply inhibited after strain transplantation.

In liver and its ultrafiltrate the level of zinc falls with leucosis whereas the intensity of incorporation of this metal into the organic complexes of the organ under investigation, vice versa, rises.

The content of zinc in bone tissue of leucous rats decreases whereas in muscular tissue of these animals the level of the element under study considerably increases.

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19790862

11/8

1/2 026 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--ENERGY SPECTRUM OF VITREOUS ARSENIC SULFIDE -U-  
AUTHOR--KOLOMIYETS, B.T., MAZETS, T.F., EFENDTYEV, SH.M., ANDRIYESH, A.M.  
COUNTRY OF INFO--USSR M  
SOURCE--J. NON. CRYST. SOLIDS 1970, 4(1), 45-56  
DATE PUBLISHED-----70

## SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--ABSORPTION SPECTRUM, ARSENIC SULFIDE, VOLT AMPERE  
CHARACTERISTIC, ENERGY SPECTRUM, PHOTCONDUCTIVITY, SEMICONDUCTOR FILM,  
FORBIDDEN BAND

## CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/0386

STEP NO--NE/0000/70/004/001/0045/0056

CIRC ACCESSION NO--AT0108680  
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UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AT0108680  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A BRIEF REVIEW OF AN EXPTL. STUDY  
OF REFLECTIVITY, ABSORPTION AND PHOTOCOND. SPECTRA, AND CURRENT VOLTAGE  
CHARACTERISTICS OF VITREOUS AS SULFIDE IS PRESENTED. THE ABSORPTION  
SPECTRA WERE OBTAINED IN THE HIGH ABSORPTION RANGE UP TO  $\lambda$  EQUALS 10  
PRIMES CM PRIME NEGATIVE1. THE VALUE OF THE FORBIDDEN BAND E SUBG OF  
VITREOUS AS SUB2 S SUB3 OBTAINED FROM THE OPTICAL DATA IS 2.4 EV. THE  
ABSORPTION EDGE AT ENERGIES E IS LESS THAN E SUBG HAS AN EXPONENTIAL  
CHARACTER DUE TO LOCALIZED STATES NEAR THE ALLOWED BAND EDGES. IN AN  
ELEC. FIELD THE EXPONENTIAL ABSORPTION EDGE SHIFTS TO A LOWER ENERGY  
RANGE OBEDIING FRANZ' THEORY. FROM A STUDY OF THE PHOTOCOND. SPECTRA AND  
CURRENT VOLTAGE CHARACTERISTICS IN THE NONLINEAR RANGE, SOME CONCLUSIONS  
CAN BE MADE CONCERNING THE ENERGY DISTRIBUTION OF THE LOCALIZED STATES  
IN THE FORBIDDEN BAND OF THE AMORPHOUS AS. SULFIDE FILMS.

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UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23 OCT 70  
TITLE--EFFECTIVE MASS OF CHARGE CARRIERS IN GLASSY ARSENIC CHALCOGENIDES

-U-  
AUTHOR--(03)-KOLOMIYETS, B.T., MAZETS, T.F., EFENDOYEV, SH.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVRD. TELA 1970, 12(2), 661-3

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ABSORPTION SPECTRUM, OPTIC SPECTRUM, ABSORPTION EDGE, ARSENIC COMPOUND, CHALCOGENIDE GLASS, CARRIER DENSITY, ELECTRIC FIELD, LINE SHIFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1987/1975

STEP NO--UR/0181/70/012/002/0661/0663

CIRC ACCESSION NO--AP0105049

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105049  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS WERE CARRIED OUT ON THE SHIFT OF THE OPTICAL ABSORPTION EDGE (ELECTROABSORPTION) ON A SERIES OF COMPOS. OF GLASSY AS CHALCOGENIDES WITH SUBSEQUENT SUBSTITUTION OF HEAVIER CHALCOGEN ELEMENTS. MEASUREMENTS ON AS SUB2 SE SUB3, AS SUB2 SE SUB3 TIMES AS SUB3 TIMES AS SUB2 SE SUB3, AS SUB2 SE SUB3, 15AS SUB2 SE SUB3 TIMES AS SUB2 SE SUB3 WERE CARRIED OUT WITH A MONOCHROMATOR WITH DIFFRACTION GRATING, SELECTIVE AMPLIFIER, SYNCHRONOUS DETECTOR, AND ELECTRONIC POTENSIOMETER. PLANE PARALLEL MASSIVE SPECIMENS WERE USED 60-300 MU THICK. ELEC. FIELD INTENSITY WAS 10 PRIMES V-CM AND TEMP. WAS ROOM TEMP. DEPENDENCE IS GIVEN OF THE SHIFT OF THE OPTICAL ABSORPTION EDGE DELTA E SUBG ON THE INTENSITY OF THE ELEC. FIELD. THESE DEPENDENCES CAN BE WELL APPROXIMATED BY THE POWER LAW DELTA E SUBG SIMILAR TO F PRIMEN, WHERE N EQUALS 1.8-2.0. THE NATURE OF THE FIELD DEPENDENCE OF THE MAGNITUDE OF THE SHIFT OF THE ABSORPTION EDGE AS WELL AS ITS DEPENDENCE ON THE ENERGY OF INCIDENT PHOTONS ARE SATISFACTORILY DESCRIBED BY THE W. FRANTZ (1958) THEORY FOR SUBSTANCES WITH EXPONENTIAL EDGE.

FACILITY: FIZ. TEKH. INST. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

USSR

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KOLOMIYETS, B. T., MAZETS, T. F., EFENDIEV, Sh. M.

"Effective Mass of Charge Carriers in Vitreous Arsenic Chalcogenides"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 2, 1970, pp 661-663

Abstract: This is an article describing measurements of the electrical absorption on several compounds of the type described in the title. Measurements were made on  $\text{As}_2\text{S}_3$ ,  $\text{As}_2\text{S}_3 \cdot \text{As}_2\text{Se}_3$ ,  $\text{As}_2\text{Se}_3$ , and  $15\text{As}_2\text{Se}_3 \cdot \text{As}_2\text{Te}_3$  using an automatic device based on the IKM-1 monochromator with a diffraction grating of 1200 lines per mm, a selective amplifier, a synchronous detector, and an EPM-69 electronic potentiometer. The authors performed this experiment because of the marked growth of interest in recent years in the behavior of charge carriers in disordered systems. These electrical absorption measurements make it possible to estimate the mass of the charge carriers, an estimate which is difficult to make on the basis of kinetic phenomena. A table of the estimates for the different compounds measured is provided.

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UDC: 621.391:519.2

USSR

MAZHAROVA, A. V.

"Radic Pulse Length Compression by an Amplifier With Tuned Circuits"  
V sb. Radicelectr. v niz. Nauk. SSSR. Ch. 2 (Radioelectronics in  
the National Economy of the USSR, Part 2--collection of works)  
Kuybyshev, 1970, 326-335 (from RZh-Radiotekhnika, No. 3, March '71,  
Abstract No. 3A68)

Translation: A compression filter is considered for systems with  
a signal-noise ratio of more than unity, in the form of a two-  
stage amplifier (with identical stages) and with a parallel reso-  
nance circuit in the cathode leg. Five illustrations, bibli-  
graphy of five. N. S.

1/1

USSR

UDC 621.73.042:62-412

MAZHAROVA, G. YE., BATENEVA, M. K., SIDORENKO, G. V., GUFALO, V. G., and  
LUCHKOVA, L. I.

"Effect of Deformation on the Structure and Properties of R18 Steel"  
"Effect of Deformation on the Structure and Properties of R18 Steel"

Moscow, Kuznechno-Shtampovochnoye Proizvodstvo, No 7, Jul. 71, pp 13-15

Abstract: The first ingots of R18 steel forged by upsetting have been tested  
at the Dneproproststal' Plant. Ingots from oneheat were forged by existing  
plant technology and by an experimental method.

Existing technology:

1. Heating an ingot weighing 590 kg in a continuous furnace up to 1250°C for one hour.
2. Drawing the ingot on a 5-ton drop forge along into a blank with a 260-mm square side and cutting into standard length.
3. Heating the standard blank in a continuous furnace up to 1250°C for 30 minutes.
4. Drawing the standard blank into a blank with a 160-mm square side.

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USSR

MAZHAROVA, G. YE., et al., Kuznechno-Shtampovochnoye Proizvodstvo, No 7,  
Jul 71, pp 13-15

5. Cooling the blanks in unheated coolers for 36 hours.

Experimental technology:

1. Same as 1 above.
2. Same as 2 above except 220-mm dimension is used.
3. Same as 3 above.
4. Upsetting standard blanks along the ingot axis to a height equal to 1/2-1/3 the original height, turning 90° and drawing in a direction perpendicular to the ingot axis, down to ingots with a 120-mm square sides with an intermediate heating to 1250°C for 15-20 min.
5. Same as 5 above.

2/3

USSR

MAZHAROVA, G. YE., et al., Kuznachno-Shtampovochnye Proizvodstvo, No 7,  
Jul 71, pp 13-15

As a result of increasing the forging reduction ratio and deformation of metal throughout its volume, crushing of the eutectic lattice occurs along with a more uniform distribution of the carbide phase. Mechanical properties of metal forged as described are better than when forged by the conventional technology, as a result of which transverse forging provides a deeper and more uniform working of the metal. A disadvantage of experimental technology is the additional preheating which lowers productivity of the forging machinery by 15-20%. Two figures, one table, three bibliographical references.

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- 46 -

1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--INTERACTION OF LIQUID OXIDE PHASES WITH A CARBON MELT -U-

AUTHOR--(03)-MAZHENOV, M.A., RYZHONIKOV, D.I., FILIPPOV, S.I.

COUNTRY OF INFO--USSR *M*

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1) 13-17

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MOLTEN METAL, IRON OXIDE, CARBON, SLAG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0949

STEP NO--UR/0148/7D/013/001/0013/0017

CIRC ACCESSION NO--AT0105918

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0105818

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ROTARY CRUCIBLE METHOD WAS USED TO DET. THE INTERACTION OF MOLTEN OXIDE PHASES WITH FEO AT HIGH TEMPS. THE ROTATION VELOCITY OF THE CRUCIBLE WAS 380-570 RPM. THE PRESSURE CHANGES IN THE SYSTEM DURING THE INTERACTION OF A C MELT WITH THE SLAG CHARGE CONTG. 55.5-83.5PERCENT FEO ARE GIVEN, AS WELL AS THE EFFECTS OF TEMP. AND OF THE ROTATION OF THE CRUCIBLE.

UNCLASSIFIED

*Satsuma*

## JAPANESE-SOVIE RELATIONS SAID TO BE IMPROVING

Article by S. Makhrov, Candidate of the historical sciences; Japan on  
The Road to Rehabilitation, Moscow, Vysch.-Internatsional'nye zhurnaly, No. 2, 1972, pp. 12-13.

The defeat of imperialistic Japan in the Second World War and its  
fascist militaristic-monopolistic rule or the monopolistic bourgeoisie; Japan on  
favorable situation was created in the country for complete destabilization.

Paragraph 6 of the "Act on the Capitulation of Japan" reads as  
follows: "At this time arises the obligation that the Japanese  
Government and its successors will honorably fulfill the conditions of  
the Potsdam Declaration, issue those regulations and undertake those  
actions that for the purpose of implementing this declaration are required  
by the Commander-in-Chief of the allied powers or any other representative

The weakening of the world system of imperialism and the strengthen-  
ing of the world socialist system contributed to the growth of the struggle  
of democratic movement in Japan itself. During the existence of the People's  
Council for Japan, in which Soviet representatives participated, a number  
of important democratic transformations was effected. An important victory  
of the country's democratic forces, which relied on the firm and decisive  
vow represented by the introduction of the basic principles of world public opinion,  
inter alia, that proceeding from the interests during for international  
peace based on justice and order, the Japanese people forever renounce  
war as a sovereign right of the nation, as well as the threat or the use  
of armed force as a means of solving international disputes. ... they  
will never in the future establish ground, naval, and air forces as well  
as other means of war. The right of the state to wage war is not recognized, as  
of all citizens under the law, abolished aristocratic privileges and  
the state." The Emperor of sovereign power, having declared him a "symbol of

The ruling circles of Japan and the occupation administration were forced to carry out important economic and political reforms. In this connection, the Japanese reform or "revision" was of major significance, for it undermined the feudal landholding system and in the final analysis led to the liquidation of the Japanese class in the country. Directives on the banning of large companies ("kyoconsyu") were even issued.

However, neither the basic constitutional treaty nor the numerous and other laws proclaimed the right of private property as the basis of production. In light of this, such important laws as the law on the breakup of the "monopolies," as well as the regulation with respect to all the people's quality under the law and the promotion of discrimination in political, economic, and social relations, were not promulgated. American corporate monopolies helped Japanese monopoly capital to sustain

the American plan to convert Japan into a military arsenal into a "balance and at the beginning of the thirties, the ruling circles of Japan, having assumed their national interests, made a compact with the U.S. imperialists to begin life up their country with the leading imperialist powers.

During the preparations for the war in Korea and during its waging the American Forces Command, located in Japan, used Japanese industrial enterprises to repair military equipment as well as placed contracts for the production of some types of armament and ammunition. The value of such orders totalled \$16.5 million in 1950 and increased to \$25.4 million in 1952. The U.S. imperialists left no stone unturned to pressure and strengthen their political and economic control of Japan and to smother its military potential for their own aggressive purposes. For example, according to the first American-Japanese military agreement signed on 8 September 1951, the U.S.A., having promised to protect Japan against a military threat emanating from the Soviet Union, strengthened its right to have military bases on the Japanese Islands and to deploy its forces on them. Thus far, pursuant to article 2 of this agreement, could be used by American imperialism for its expansionistic goals in the Far East, just as it could for the suppression of large-scale internal riot and disorders in Japan. A new step in extending American-Japanese military ties was represented by the 10-year "Mutual Defense Treaty and Security," concluded in January 1960. Pursuant to this treaty, the U.S.A. retained its bases on Japanese territory. Japanese military obligations, however, became broader. Japan was compelled independently and in cooperation with the U.S.A. to develop its military industry and to increase its armed forces, which afforded Japanese reactionaries an opportunity to begin the militarization of the country.

U.S. and Japanese scholars agreed to a joint conference "American University Teachers" in June 1954, in which scholars from both countries exchanged views on their respective educational systems.

The Japanese imperialism used the war in Manchuria to further expand their military power through increasing its military spending, which by 1938 was said their Korean War level by over 2-fold. Overall, Japan's progressive and colonial documents clearly that 92 percent of the aerial bombs dropped by the Americans on Vietnamese targets and areas around Hanoi.

Filling the orbits of the African Army forces initiated on the basis of the corresponding territories or the nationalities.

However, the forced development of industry in that section, which grew very rapidly, without elemental infrastructure, up reached a point where this region, the ruling class of Japan, in those years concentrated their forces and funds on carrying heavy industry and its basic machine building.

**THE UNITED STATES** announced the visit of Ambassador to the American Republics and began to implement a second, larger military program.

Japan's military budget was increased into a prolonged war to further step up the expansion of U.S. intervention in Korea without violating the beginning of the limitation of the third armament plan for armed forces development (1961-1971); 2,400 billion yen were earmarked to carry it out.<sup>7</sup>

Country	Population (in millions) (Source: UN Statistical Yearbook)	Military outlays (in billions of dollars)	Gross Product (in billions of dollars)
U.S.A.	233	3,425.0	765.5
Great Britain	55.9	455.0	54.4
France	50.6	303.0	54.5
West Germany	53.5	615.0	54.3
Italy	53.7	420.0	54.3
Japan	102.2	250.0	147

The table makes clear that Japan is the third largest military spender in Western Europe. However, whereas the military budgets of Great Britain and France usually increase by less than one-half those of Japan go up by 17-18 percent annually. Such growth rates for military outlays may lead to a situation in which Japan will attain the military allocation level of the West European powers and countries and perhaps even surpass them in this area.

Japan's industry devotes the techniques of producing all kinds of conventional weapons including aerospace firms, underwater military vessels and submarine, electronic computers and other communication media, rockets of varying size and class (including the strategic variety). On 11 February 1970 an artificial earth satellite was launched with the use of the "Himawari-5" communications satellite, operating on solid fuel.

Major attention is being devoted in Japan to the development of atomic energy. Data for 1970 show that ten atomic power stations of 160,000- and 322,000-kilowatt capacity were operating in the country and that eight atomic power stations were either in the planning or construction stage. With this developmental level of the atomic industry, the development of atomic weapons poses no great difficulties. Data at the end of October 1959 show that plutonium produced in Japan totaled 257 kilograms, or nearly enough for 20 atomic bombs. However, in 1970 Japan purchased in Great Britain 120 kilograms of plutonium.

In a whole, Japan's military industry meets 97 percent of the requirements of its armed forces for manufacture of all types and sizes of their requirements for aircraft, tanks, artillery, naval ships, and missiles. Over 1,500 factories — and this figure does not take into account subcontracting enterprises and companies — are engaged in filling military orders.

A leading role is played by the country's military-industrial potential is played by such giant corporations as "Hitachi," "Mitsubishi," "Nippon Steel," "Daito," "Mitsui," etc. In 1969, "Hitachi Kokai Kogyo," "Nippon Denki," "Mitsubishi Heavy Industries," "Mitsubishi Kasei," "Mitsubishi Heavy Industries," and others, a total of which in 1969 obtained military orders valued at over 1 billion yen.<sup>13</sup> For example, "Mitsubishi Heavy Industries" delivered to the National Defense Directorate artillery and rifles, tanks, naval ships, aircraft, and other armaments having a total value of 354 billion yen.

In 1969 a questionably revealing survey was made to the question of how the military and financial circles felt about the matter of developing national defense arms. Results showed that 32% of the major industrial firms, 22% of the medium-sized firms, and 11% of the small firms were in favor of increased military production, 22 percent called for cuts in military expenditures,<sup>14</sup> while 35% had no definite opinion or the like. Of Japan's big business firms, 35% have a definite majority in favor of exports to the countries of the Far East and Southeast Asia.

Thus, by the beginning of the seventies Japan has restored its own military industry, capable of producing all kinds of conventional armament, and created the prerequisites for the production of atomic weapons.

The Japanese armed forces are now more powerful than those of any other Asian capitalist country.<sup>15</sup> Japan's high commanding officers and various types of militaristic organizations and attachment remnants elements are manifesting aggressive intentions in the matter of further developing the armed forces. Special activity is being manifested by the chief of the National Defense Directorate, Tamura Nakamura, and by the chairman of the United Group of chiefs of staff, Admiral Tsuboi Itaya — a former officer of the Imperial Navy.

It is necessary to point out at this point that officials of the Imperial Army and Navy are not new to Japan's present-day armed forces. In 1959, 3,000 civilian and officers of the former Imperial Navy were serving in the armed forces alone. The basic leadership posts in the Japanese Armed Forces are held by former members of the old army and navy, and young officers are trained in the traditions of Japan's prewar armed forces. There is therefore no cause for surprise over the widespread dissemination of militaristic ideology in the army and navy.

The clearest possible point of view of Japan's military circles is expressed in the "White Book on the Defense of Japan," issued by the National Defense Directorate in August 1969.<sup>16</sup> This book, permeated with the spirit of the "cold war," is vivid evidence of the remnants aspirations of the Japanese military. It asserts, reality notwithstanding, that international communism will unswervingly expand as long as there is a chance for success.<sup>17</sup>

"Unlike other documents, the 'White Book on the Defense of Japan,' carries, with the government's approval, the military aspects, views in the future development and the practicalities of the army. These views are based on a consideration of its own forces and the potential of possible aggressions. The book stresses that Japan can strengthen its armed forces so as to exert indirect influence (i.e., the notion of the country's workers) and to have the "opportunity of participating in limited military conflicts and small wars." Consequently the ruling circles of Japan allow Japanese troops to participate in wars outside the country, with a view to achieving their present, impractical or the element proscription contained in the 1947 Japanese Constitution.

Official documents and speeches and statements by political officials present in Japan, however, do not contain such a statement. However, in practice the Japanese Government officially practices the policy of neutrality only on the grounds that "if Japan will be highly developed economic and industrial power and with its location in the border between East and West were to share to a policy of neutrality, the basis of peace between East and West would be disturbed, thereby having a disastrous effect on the cause of peace." This makes clear that the aim of the latter is not Japan's security or the preservation of a neutral role in Asia. The aim of the latter can be found in the statement by Lt. Gen. Tomio Shiba, the National Defense Minister. It reads as follows: "The duty of the self-defense forces of Japan — a country surrounded by the sea — is to safeguard shipping. The maritime areas surrounding Japan must be defended by the naval forces of Japan. It then points out that the maritime areas that must be protected by the naval forces originates from the demands of Japan proper to the American President. That this must be done, it is said, rests on the grounds that Japan contains 92 percent of its population requirements from the Middle East.<sup>21</sup> This attracts to the Japanese and expansionist aspirations of the Japanese military.

Closely connected with the reactionary military circles is a number of extremely influential economic organizations that finance and defend the interests of monopoly capital. These include the "Federation of Economic Organizations" ("Keizai Seikatsu Roudoukyo") founded in 1951, which great influence. It is composed of 26 industry departments; the ministries of finance, foreign affairs, foreign trade, industry, and transportation; cabinet offices; national defense and scientific-research in the council. Many "Miyazawa" representatives from industrial circles are members of the council.<sup>22</sup>

The military-oriented economic policy adopted by the State National Defense Council and the Ministry of Economic Planning and Trade, with various types of measures, on the organization of the State-owned enterprises production on the construction of military-industrial installations, on exports, imports, etc., has facilitated the Japanese military-industrial complex's rapid growth. Above all, the Japanese military-industrial complex's rapid growth has been due to the fact that the State National Defense Council has insisted that the military industry be the sole industry of the country as well.

Such trends have resulted in the formation of a coalition of some increasing class forces between the Japanese military and bourgeoisie, for example, of the "military industrial alliance" and the "National Defense Directorate" in the Japanese military-industrial complex's work for industrial expansion. Even though the Japanese military-industrial complex's main purpose is to join with industrial complex for the sake of maintaining and military expansion, it is also concerned with the development of the Japanese economy. A state-owned national defense organization called "National Defense Agency," which is the Japanese equivalent of the U.S. Defense Department, stands ready to assist the Japanese military-industrial complex in its efforts to expand its military activities, with a view to making up the deficiency of the armed forces.

Thus there is every reason to expect that a military-industrial complex — an alliance between the Japanese bourgeoisie having reactionary political officials and the military — has evolved by the end of the sixties in Japan as in many other imperialist states. This complex was the basic driving force directing the development of the country along the road to militarism.

Characteristic of the Japanese military-industrial complex are the ever-increasing link between Japan's society — society based in weapons production and manufacturing American companies. In particular, the "Mitsubishi Heavy Industries" Company has purchased factories from such American companies as "General," "Mitsubishi," "American Machine & Foundry," "United States," "Pratt and Whitney," "McDonnell," "McDonnell," and others. The Japanese "national" "Mitsubishi" is associated with the American film "Martin Marietta," the "Mitsubishi Diesel" Company with the American "Westinghouse Electric International," and "Mitsubishi Atomic Power Industry" with "Westinghouse."

The central relation between Japan and America is mainly economic and American firms frequently represent the Japanese bourgeois groups pursued by the governments of those countries. Japanese industrialism has throughout its history sought allies as it prepared for expansion.

The U.S. imperialists are also interested in an alliance with Japan, and this is vividly confirmed by the so-called Nixon "Asia Doctrine." In implementing this doctrine, Washington gave Japan an important role. Tokyo is thus warmly welcomed the new course of the U.S. President, consisting in becoming a full partner in imperialist robbery.

All this creates an extremely favorable situation for the activity of Japan's military-industrial complex. The main of this ill-boding alliance are becoming clear. "Urgent Measures to actively joining the battle for nuclear and atomic power," it was established at the Inter-national Conference of Communist and Worker Parties in 1959. (7)

The reactionary circles of Japan's ruling circles, to further strengthen the military-political alliance with the U.S.A., to step up economic expansion in the countries of Asia, to support anti-socialist regimes in the territories of India, Iran, and South Africa, and to stabilize which was approved by the 23rd Conference of the ruling Labor-Democratic Party in February 1970. A document adopted by the Japanese Reds, later on, as follows: "In the era of the Pacific Ocean, the role of dominant in the Pacific Ocean is also increasing. In Japan, the U.S. government officials claim a leading role only in the economic development of the country or of Southeast Asia, nor they are very interested in making claims to interfere in all their affairs, including military and political.

Japan's ruling circles are hastening to prepare the country to take an active part in important "new war". To do this no easier to employ than a record of fulfilling the third "Five-Year Defense Plan" (1970-1971), the allocations for which totalled 6.4 billion dollars. Japan has a well-trained and armed cadre and on more basis large-scale armed forces could be developed in a short period.

The "Fourth Five-Year Defense Plan" (1972-1976) envisages an even faster pace of militarization and armaments growth. Official data show that military outlays during this period will total 5,300 billion yen, i.e., \$16 billion.

The "spirit of Isolation" (the Japanese moral code) is being strongly propagated in Japan, and the military training of cadets is being intensified. Facilities of the service housing of "Yamato" (the Emperor) are being cultivated in Japanese youth, just as in existence for the majority of the Feudal Empire. There are over 400 pro-Soviet organizations in the country.

Recently the Japanese revisionists have stepped up their activity sharply. They are claiming that the results of the Second World War be revised. Silent about the crime of Japanese militarism, they call for a reconsideration of boundaries in the Far East. They came up with groundless theories to the effect that the Far East "have been Japanese since 1912 Imperial," although those demands were refuted, as is known, by Asian and Siberian ethnic groups.

Agitation "caravans" organized throughout the country, meeting on air trips for a "look" at the northern island of the Kurile chain, meetings, conferences, exhibitions, rallies, signature and fund collections, and finally hooligan tricks at the buildings of the Soviet representation in Japan. And all this is done with a single goal: to attract the public's

attention to a matter that the military circles feel they can use to advantage in facilitating their own task of instilling a militaristic spirit into the people.

Forgetting the lessons of history, the ruling circles are unleashing nationalistic moods in the people and trying to indoctrinate into them a feeling of hate and hostility toward a great neighbouring state, clearly bringing matters to a stale stand in normal Sino-Japanese relations and deteriorating relations that had evolved between the Soviet Union and Japan in recent years. The claims to Manchurian territory are combined with Japan's stepped-up penetration of South Korea and Manchuria former Japanese colonies with the openly expansionist aspirations of the Japanese imperialists (with the cooperation of the American imperialists) toward Southeast Asia and other areas of continental Asia.

Thus the reactionary foreign and domestic policy of the Japanese government is directed at strengthening militarism and monopoly capitalism. Pursuing this course, the Japanese authorities are claiming a leading role for Japan, which, ignoring the further forward development of the armed forces and leading to still greater armaments of the ultra-imperialist situation in the area of the Far East.

The causes of the Japanese ruling circles and monopolies to establish the rule of imperialism again in Asia must center to the decisive action of the peoples of the Asian countries who are waging a struggle for national liberation and for independence, as well as of the supporters of peace and democracy in Japan itself. "The Soviet People," said the Foreign Minister of the Council of Ministers USSR, in reply to questions raised by the newspaper "Dagens Nyheder," said, "In order to unilateral campaigns unfriendly to the USSR and thereby poison the atmosphere of relations between our countries."

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4. *Nihon no Kousei*, Tokyo, 1959, p. 87.
5. *Kedai*, No. 4, 1967, pp. 26-27.
6. Loc. cit.
7. *Bez Narkosa*, Tokyo, 1968, p. 217.

8. Devonshire, No 46, 6 October 1969, p 24; Japan Press, 16 August 1969.
9. Press, 12 February 1970.
10. Lectures, 31 October 1969.
11. Fritz, 22 September 1970.
12. Body Count, 1968, pp 264-314.
13. Parade, No 46, 1969, p 25.
14. etc. etc.
15. The Japanese Armed Forces consist of 250,000, including 175,000 Ground Forces (consist of five armies numbering 13 divisions, five brigades, and 15 regiments) and various units. The Airforce (11 squadrons) consists of 1,500 aircraft. Military Aviation is broken down into 8 battalions which equipped with jet aircraft, including F-4 Phantom modern fighter fighters. The Naval Forces have 40 submarines and over 200 underwater combat ships.
16. Japan Today published in 1970 with several editorial changes.
17. Arabs, 19 October 1969.
18. Japan Press, 27 September 1969.
19. 211.
20. Senior citizens, 12 December 1969.
21. Parade, No 46, 1969, p 23.
22. Forming part of this organization are 50 specialised committees for various industrial branches, including the defense industry committee.
23. This organization of entrepreneurs was set up in 1947 to counter the workers and democratic movement. Its views on the role and significance of the armed forces boils down to this: The army personifies the state.
24. Alchetron, 20 May 1962.
25. Parade, 13 February 1970.
26. The essence of the "Non-Doctrines" is to have Asiatic right against Asiatics."

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1

27. Dokumentation des politischen Sonderabwesens im Ausland,  
Friedrich Ebert Stiftung, Bonn, 1969, p. 15.
28. Berlin, 14 February 1970.
29. Baden, 3 January 1970.

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CO: 1808-A

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1"

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ON SOME CONSEQUENCES OF PROLONGED THIAMINE INJECTION IN THE BODY:  
CHANGES IN CARBOHYDRATES PROTEINS, AND LIPIDS METABOLISM -U-  
AUTHOR-(05)-OSTROVSKIY, YU.M., LUKASHIK, N.K., TREBUKHINA, R.V., DOSTA,  
G.A. MAZHUL, A.G.  
COUNTRY OF INFO--USSR

SOURCE--VOPROSY MEDITSINSKOY KHMII, 1970, VOL 16, NR 3, PP 316-322

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THIAMINE, CARBONHYDRATE METABOLISM, PROTEIN METABOLISM, LIPID  
METABOLISM, ERYTHROCYTE, ENZYME ACTIVITY, BLOOD SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1998/0142

STEP NO--UR/0301/70/016/003/0316/0322

CIRC ACCESSION NO--APO120842

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120842

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INJECTION OF THIAMINE INTO RATS AND PIGEONS DURING 1-8 MONTHS RESULTED IN THE ELEVATION OF ACTIVITY OF TRANSKETOLASE IN ERYTHROCYTES AND PYRUVIC ACID DEHYDROGENASE IN HEART AND LIVER. AT THE SAME TIME THE DECREASE IN PHOSPHORYLASE ACTIVITY AND GLYCOGEN ACCUMULATION IN LIVER, THE INCREASE IN PLASMA ALDOLASE AS WELL AS HEART AND MUSCLE ENZYME, GLUCOSE-6-PHOSPHATASE IN LIVER, GLYCOGENOLYSIS IN ERYTHROCYTES, CHANGES IN PROTEIN FRACTION CONTENT IN BLOOD SERUM, CHANGES IN SH GROUPS CONTENT IN THE BRAIN AND BLOOD PLASMA, AND CHANGES IN GLUTAMATE DECARBOXYLASE IN THE BRAIN WERE OBSERVED. FACILITY: CHAIR OF BIOCHEMISTRY, MEDICAL INSTITUTE, GRODNO.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--CONFORMATIONAL TRANSITIONS OF NATIVE PROTEINS IN SOLUTION AND CELLS  
-U-

AUTHOR--(03)-MAZHUL, V.M., CHERNITSKIY, YE.A., KONEV, S.V.

COUNTRY OF INFO--USSR



SOURCE--BIOFIZIKA 1970, 15(1), 5-11

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ENZYME, ALBUMIN, FLUORESCENCE SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0626

STEP NO--UR/0217/70/015/001/0005/0011

CIRC ACCESSION NO--AP0117852

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117852

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSITIONS OF FLUORESCENCE MAXIMA AND POLARIZATION IN SOLNS. OF BETA, AMYLASE, ARGINASE, HEXOKINASE, HYALURONIDASE, GLYCERALDEHYDE, 3,PHOSPHATE DEHYDROGENASE, DNASE, LACTATE DEHYDROGENASE, LYSOZYME, PEPSIN, BOVINE AND HUMAN SERUM ALBUMINS, UREASE, CHYMOTRYPSINOGEN, AND EGG ALBUMIN WERE STUDIED AT DIFFERENT TEMPS. BETWEEN 00GREES AND PLUS 35GREES, UNEVEN CHANGES IN THE DEGREE OF POLARIZATION AND LOCATION OF FLUORESCENCE MAXIMA WERE OBSO. THE CHANGES WITH TEMP. WERE REVERSIBLE AND THE TRANSITIONS OCCURRED IN SMALL TEMP. INTERVALS OF 10-15GREES. THE DATA INDICATED THE PROBABLE EXISTENCE OF 2 OR 3 TEMP. DEPENDENT FORMS OF THE PROTEINS. THE MODE OF TRANSITION WAS CHARACTERISTIC FOR EACH PROTEIN. THE DELTAH VALUES WERE BETWEEN 50 AND 100 KCAL-MOLE. SIMILAR COOPERATIVE CONFORMATIONAL TRANSITIONS WERE DEMONSTRATED ALSO IN EPITHELIUM TISSUE OF FROG ESOPHAGUS AND CONSIDERED TO BE OF PHYSIOL. SIGNIFICANCE.  
FACILITY: LAB. BIOPHYS. ISOTOP., MINSK, USSR.

UNCLASSIFIED

1/2 029

UNCLASSIFIED

PROCESSING DATE--09OCT70  
PROCESSED BY--U-

TITLE--CONFORMATION TRANSITIONS OF PROTEINS IN INTACT CELLS -U-  
AUTHOR--{04}-KGNEV, S.V., CHERNITSKIY, YE.A., MAZHUL, V.M., YASKEVICH, V.P.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(1), 68-71

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FROG, GASTROINTESTINAL SYSTEM, CELL PHYSIOLOGY, PEPTIDE,  
MOLECULAR BIOLOGY, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0934

STEP NO--UR/0250/70/014/001/0068/0071

ACCR--ACCESSION NO--A0105803

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--09 OCT 70

CIRC ACCESSION NO--AT0105803

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE PERFORMED ON THE CILIARY EPITHELIAL CELLS OF ESOPHAGUS IN RANA TEMPORARIA. THE CONFORMATIONS OF THE PROTEINS WAS DETERMINED BY A SPECTRAL LUMINESCENCE METHOD. THE INDICATOR OF FUNCTIONAL ACTIVITY OF CELLS WAS THE MOTILITY RATE. SHARP CHANGES IN THE ACTIVATION ENERGY OF THE CELL MOTILITY IN THE TEMP. INTERVAL 3-9DEGREES WERE FOUND. THE CHANGES AND SIGMOID CHARACTER OF THE CURVE LAMBDA SUBMAX. EQUALS FIT IN THE INTERVAL 11-3DEGREES DUE TO INVERSE CONFORMATION TRANSITION A IN EQUILIBRIUM B IN EQUILIBRIUM C AND PRONOUNCED CHANGES OF THE ENTHALPY (120 KCAL-MOLE) WERE OBSRD. THESE FACTS POINT TO THE GENERAL CHARACTER OF TRANSITION INFLUENCING THE GREATEST PART OF POLYPEPTIDE CHAINS OF MACROMOLS. AND EVEN ITS ENVIRONMENT. THE SHORT WAVE CHARACTER OF THE SHIFT OF PROTEIN SPECTRAL FLUORESCENCE AT A TEMP. OF 3-11DEGREES IS FOUND BECAUSE THE A CONFORMATION CONTAINS MORE HYDROPHOBIC TRYPTOPHAN RESIDUES IN A NONPOLAR AMINO ACID ENVIRONMENT THAN CONFORMATION B EXISTING AT A HIGHER TEMP. (10-20DEGREES).

FACILITY: LAB. BIOFIZ. IXOTOP., MINSK, USSR.

UNCLASSIFIED

USSR

UDC 547.963.3

VANYUSHIN, B. F., DEDIYEVA, YE. P., MAZIN, A. L., MITINA, V. S., and IVANOV-SKIY, I. N., Interfaculty Laboratory of Bioorganic Chemistry, Moscow State University imeni M. V. Lomonosov, Chair of Biochemistry Samitov Medical Institute

"Some Structural Characteristics of DNA in *Pasteurella pestis* Strain EV"

Moscow, Biologicheskiye Nauki, No 12, 1970, pp 82-86

**Abstract:** DNA isolated from *P. pestis* EV cells is hyperchromic after thermal denaturation (32 to 34%). The molecule is two-strand and contains guanine (24.3 mol.%), cytosine (24.3 mol.%), adenine (25.6 mol.%), N<sup>2</sup>-methyladenine (0.27 mol.%), thymidine (25.5 mol.%), and guanine+cytosine (48.6 mol.%). Some 56% of the nucleotide material is concentrated in the mono- and dipyrimidine sequences. *P. pestis* DNA also differs from some other bacterial DNA in having more dipyridine than monopyrimidine fragments, i. e., the Pur-Pyr-Pur sequence is much less common than the Pur-Pyr-Pur sequence. This distribution explains why no bacterial DNA can form "molecular Hybrids" with DNA from animal cells. The nature of the distribution of pyrimidines in *P. pestis* DNA shows that bacterial DNA possesses some peculiarities of organization of nucleotide sequences that distinguishes it from the DNA of higher organisms.

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1/3 011 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--THERMAL FRACTIONATION OF DNA ACCORDING TO BASE COMPOSITION -U-

AUTHOR--(03)-MAZIN, A.L., SULIMOVA, G.YE., VANYUSHIN, B.F.

COUNTRY OF INFO--USSR M

SOURCE--NCELKULYARNAYA BIOLUGIYA, 1970, VOL 4, NR 2, PP 265-274

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, FREEZING, CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1395

STEP NO--UR/0463/10/004/002/026570274

CIRC ACCESSION NO--AP005-264

UNCLASSIFIED

2/3 011

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NU--AP0054264  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PROCEDURE HAS BEEN ELABORATED FOR THERMAL FRACTIONATION OF DNA ACCORDING TO BASE COMPOSITION. THE METHOD CONSISTS OF THREE MAIN CONSECUTIVE STAGES: (1) PARTIAL DENATURATION OF DNA AT A GIVEN TEMPERATURE (IN THE DNA MELTING RANGE) IN 0.01 M PHOSPHATE BUFFER, PH 6.8. (2) FIXATION OF PARTIALLY DENATURED STAGE OF DNA BY QUICK FREEZING AT THE LIQUID NITROGEN TEMPERATURE WITH SUBSEQUENT THAWING AT ROOM TEMPERATURE IN THE PRESENCE OF 1PERCENT FORMALDEHYDE. (3) SEPARATION OF NATIVE AND DENATURED DNA MOLECULES BY MEANS OF CHROMATOGRAPHY ON HYDROXYLAPATITE IN THE PRESENCE OF 0.5PERCENT FORMALDEHYDE. THE ABOVE METHOD OF FIXATION OF PARTIALLY DENATURED MOLECULES. STAGE OF DNA EXCLUDES RENATURATION OF TOTALLY DENATURED MOLECULES. CHROMATOGRAPHY ON HYDROXYLAPATITE ENSURES QUANTITATIVE SEPARATION OF NATIVE AND DENATURED DNA: SINGLE STRANDED DNA ARE ELUTED AT A LOWER CONCENTRATION (0.12 M) OF PHOSPHATE BUFFER AS COMPARED TO DOUBLE STRANDED DNA (0.22 M). THE QUANTITY (F) OF DENATURED DNA HAS A LINEAR DEPENDENCE ON THE DENATURATION TEMPERATURE (T) AND CAN BE DESCRIBED BY THE REGRESSION EQUATION F EQUALS 7.4 T MINUS 431.8. BY THE METHOD OF STEP FRACTIONATION 11 FRACTIONS OF VARIOUS BASE COMPOSITION WERE ISOLATED FROM TOTAL ULTRASONIC TREATED CALF THYMUS DNA (PERCENTAGE OF GC VARIES FROM 30 TO 60). THE RELATIONSHIP BETWEEN THE COMPOSITION (PERCENTAGE OF GC) OF THESE FRACTIONS AND THE MEAN TEMPERATURE AT WHICH THEY WERE ISOLATED (T) IS CLOSE TO LINEAR AND MAY BE DESCRIBED BY THE FOLLOWING EQUATION: GC (MOLAR PER CENT) EQUALS 2.2 T+100.6. THE REGRESSION COEFFICIENT IS 2.2PERCENT GC PER 1DEGREE.

UNCLASSIFIED

3/3 011 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0054264

ABSTRACT/EXTRACT--THUS, THE ABOVE PROCEDURE ALLOWS TO FRACTIONATE DNA MOLECULES OR THEIR FRAGMENTS IN ACCORDANCE WITH THEIR MELTING TEMPERATURES AND, HENCE, IN STRICT CONFORMITY WITH THEIR BASE COMPOSITION.

USSR

GURETSKIY, V. V., MAZIN, L. S. (Leningrad)

"Concerning a Problem of Optimal Stabilization"

Moscow, Mekhanika Tverdogo Tela, No 4, Jul-Aug '70, pp 58-63

Abstract: The article deals with unidimensional stabilized oscillations of an elastic linearly damped body that are brought about by vibration of the base according to a harmonic law. The formulated problem belongs to the class of problems of the damping of elastic bodies and, in the article, is called a problem of optimal stabilization. 1 figure, 3 bibliographic entries.

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USSR

GURETSKIY, V. V., KOLOVSKIY, M. Z., MAZIN, L. S., Leningrad

"On the Limiting Possibilities of Antishock Damping"

Moscow, Mekhanika Tverdogo Tela, No 6, Nov/Dec '70, pp 17-22

Abstract: The paper deals with the limiting possibilities of anti-impact protection of equipment by using a damper, an impact shock absorber and combinations of the two. Theorems are proved which define the reaction of an optimum shock absorber as a function of time. Examples are given. The results may be easily generalized to the case of steady-state (periodic) effects.

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1/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--DEVELOPMENT OF A MATHEMATICAL MODEL OF PYROLYSIS IN A REACTOR WITH  
A RISING FLOW OF HEAT CARRIER -U-  
AUTHOR--ABDULLAYEV, F.M., ZAFERMAN, D.M., KORSH, B.S., MAZIN, M.B.,  
TMENOV, D.N.

COUNTRY OF INFO--USSR

SOURCE--KHM. TEKHNOL. TOPL. MASEL. 1970, 15(3), 40-2

DATE PUBLISHED-----70

M

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL REACTOR, MATHEMATIC MODEL, PYROLYSIS, DIESEL FUEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/2038

STEP NO--UR/0065/70/015/003/0040/0042

CIRC ACCESSION NO--AP0109970

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UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

CERC ACCESSION NO--AP0109970

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PYROLYSIS OF A DIESEL FUEL FRACTION, B. 253-354DEGREES, FREE OF AROMATIC HYDROCARBONS, WITH QUARTZ SAND AS HEAT CARRIER, WAS STUDIED IN A PILOT PLANT. A CORRELATION MATRIX WAS USED AS CRITERION FOR THE DEGREE OF ORTHOGONALITY OF THE DESIGN MATRIX. THE OPTIMAL OPERATING CONDITIONS WERE DED. BY MEANS OF 2ND ORDER EQUATIONS.

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UNCLASSIFIED

AACD44741

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243971 THREE-COMPONENT ACCELEROMETER whose movable part (1) consists of two intersecting cylinders, on which are mounted an electromagnetic converter coils. The latter comprises permanent magnets (2) and a magnetic circuit which is part of the instrument case. The movable part is suspended on tension wires by brackets (5). Induction pickups can be used as displacement pickups. Their stationary windings (6) are mounted on the instrument stationary part. The special feature of the invention is that the instrument operates for accelerations along the Z axis as an axial accelerometer, and for accelerations along the X and Y axes as a pendulum type accelerometer. The tension wire suspension makes possible the variation of the instrument natural frequency by varying the wires' tension.

3.7.67 as 1172718/12 in name V.D. et alia, M.I.  
KALININ LENINGRAD POLYTECHNIC (9.10.69) Jul 17/  
14.5.69. Class 420. Int.Cl.G 01p.

2/70

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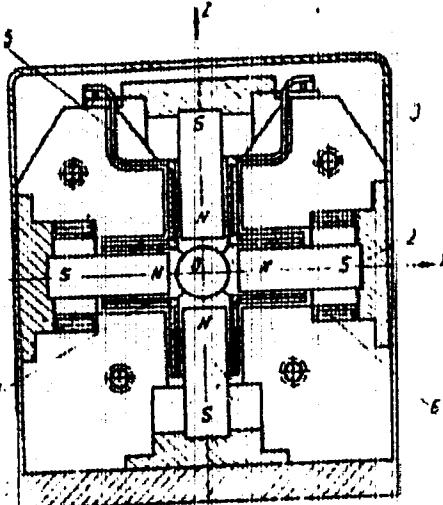
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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1"

AA0044741

AUTHORS: Mazin, V. D., and Fetisov, M. M.

Leningradskiy Politekhnicheskiy Institut im. M. I. Kalinina

3/3

19771493

USSR

UDC 582.285.58.08

ANDREYEV, I. N., MAZIN, V. V., and SHASHKOVA, L. S., Main Botanical Garden,  
Academy of Sciences USSR, Moscow

"Growth of the Agent of Stem Rust of Wheat (*Puccinia graminis* f. sp. *tritici*)  
under Saprophytic Conditions"

Moscow, Doklady Akademii Nauk SSSR, Vol 207, No 5, 1972, pp 1247-1249

Abstract: *Puccinia graminis* grew well on a medium containing glucose, peptone and mineral salts for 90 days or more after which the fungus generally underwent autolysis. On the same medium without glucose, the fungus grew about 40 days and formed colonies consisting of shorter and more twisted hyphae. Similar colonies were observed when soluble starch (2%) was substituted for glucose and growth continued about 60 days. The weaker and less sustained growth of the pathogen on the medium with starch compared to that on the medium with glucose (or sucrose) suggests that exogenous amylase is a significant factor only under saprophytic conditions in the absence of mono- and oligosaccharides in the medium. There was abundant germination of uredospores and formation of colonies growing saprophytically on the surface of agar-covered medium.

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1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--SURGICAL ASPECT OF THE SIGNIFICANCE OF INTERRELATIONS BETWEEN THE  
CALYX PELVIS SYSTEM AND ARTERIAL ARCHITECTONICS OF THE KIDNEY -U-  
AUTHOR--(02)-MAZIN, V.V., OLOFINSKIY, L.A.

COUNTRY OF INFO--USSR

SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 3-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY, BLOOD CIRCULATION, ANATOMY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/2045

STEP NO--UR/0606/70/000/003/0003/0007

CIRC ACCESSION NO--AP0120688

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT77

CIRC ACCESSION NO--AP0120688

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS APPLIED CORROSION METHOD TO THE STUDY OF ARTERIAL AND THE CALYX PELVIS SYSTEM ON 120 CADAVERIC KIDNEYS. POORLY VASCULARIZED ZONES IN RELATION TO THE STRUCTURE OF THE CALYX PELVIS SYSTEM WERE SEARCHED; ALSO A POSSIBILITY OF PRELIMINARY LIGATION OF THE SEGMENTARY ARTERIAL BRANCHES FOR ANATOMICAL RESECTION OF THE KIDNEYS WAS ASCERTAINED. BRANCHING WAS FOUND TO BE OF TWO TYPES, ANTERIOR OR POSTERIOR TO THE PELVIC ARTERY, AND THIS COULD BE ESTABLISHED BY POSITION OF THE PELVIS. POORLY VASCULARIZED ZONES WERE LOCALIZED RADIALLY IN BOTH SIDES OF THE KIDNEY IN CONFORMITY TO THE LOCALIZATION OF THE SMALL AND LARGE (LOWER AND MIDDLE) CALYCES. WHEN BRANCHING WAS OF SCATTERED TYPE, BRANCHES OF THE SECOND ORDER COULD BE LIGATED IN THE HILUS. IN MAGESTRAL TYPE OF BRANCHING THE SUPERIOR POLAR BRANCH OF THE SECOND ORDER COULD BE PRELIMINARILY LIGATED. FACILITY: KLINIKA FAKUL'TETSKOY KHIRURGII VLADIVOSTOKSKOGO MED. INST.

UNCLASSIFIED

Radiation Chemistry

USSR

UDC 541.182.65:541.15

MAZINA, G. R., PANICH, R. M., USTINOVA, Z. M., VOYUTSKII, S. S., FODIMAN, N. M., KRATSHTEYN, P. N., and KUZNETSOVA, G. I., Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov

"Effect of Ionizing Radiation on the Properties of Fluorine-containing Copolymer Latex"

Moscow, Kolloidnyy Zhurnal, Vol 33, No 5, Sep-Oct 71, pp 690-692

Abstract: The effect of ionizing radiation on the properties of fluorine-containing copolymer latex was studied by using  $\text{Co}^{60}$  as a source, the radiation dose ranging from 0.25 to 50 Mrad. The pH of the irradiated copolymer latex became lower, as did the resistance to electrolytes. After irradiation the coagulation threshold of the latex was also lowered with simultaneous coagulation of globules and intraglobular crosslinking of the polymer. Increased radiation dose resulted in greater three-dimensional lattice density. Irradiation of the latex does not lead to formation of intraglobular chemical bonds and to better film formation.

1/1

L/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--PREPARATION OF DISPERSIONS OF INGREDIENTS FOR LATEX MIXTURES -U-

AUTHOR--(05)-MAZINA, G.R., MIROKHINA, G.A., PUTYATINA, Z.P., VODOVCHENKOVA,  
M.K., ABRAMOVA, YE.N.  
COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(2), 19-21

DATE PUBLISHED-----70

M

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--LATEX, MICROSCOPE, BUTYL RUBBER, FILLER, SULFUR, ZINC  
COMPOUND, ROLLING MILL/(U)JV200 VIBRATORY MILL, (U)MS16 MICROSCOPE,  
(U)GIPI LKP BEAD MILL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/0096

STEP NO--UR/0138/70/029/002/0019/0021

CIRC ACCESSION NO--AP0122362

UNCLASSIFIED

2/2 015

CIRC ACCESSION NO--AP0122362

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. S, ZNO, ZN(S SUB2 CNET SUB2) SUB2, AND ZN(S SUB2 CNETPH) SUB2 DISPERSIONS WERE PREPARED, IN A BEAD MILL GIPI-LKP (HAVING GLASS BEADS 0.63-1 MM IN DIAM.), A VIBRATORY MILL M-200, AND A BALL MILL, AND THE PARTICLES WERE EXAMINED UNDER A MBI-6 MICROSCOPE. SEDIMENTATION ANAL. INDICATED THAT THE DEGREE OF DISPERSION OF THE INGREDIENTS WAS IDENTICAL REGARDLESS OF THE MILL USED, BUT THE BEAD MILL WAS THE MOST PRODUCTIVE. BUTYL RUBBER FILMS FILLED WITH THE VARIOUS DISPERSIONS HAD SIMILAR PHYSICOMECH. PROPERTIES.  
FACILITY: NAUCH.-ISSLED. INST. REZIN, LATOKSNYKH IZDELII, MOSCOW,  
USSR.

UNCLASSIFIED

172 015 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--PREPARATION AND PROPERTIES OF AQUEOUS BUTYL RUBBER DISPERSIONS -U-

AUTHOR-(05)-GUSTOVA, L.P., GELLER, T.L., MAZINA, G.R., SANDOMIRSKIY, O.M.,  
DOGADKIN, B.A.  
COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 203-206

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BUTYL RUBBER, EMULSION, PARTICLE SIZE, POLYMER FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0400

STEP NO--UR/0069/70/032/002/0203/0206

CIRC ACCESSION NO--AP0113318

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113318

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITIONS OF PREPARATION OF BUTYL RUBBER DISPERSIONS BY MILLING HAVE BEEN STUDIED. GREATER RIGIDITY OF POLYMER OR ITS MIXTURES FAVORS DISPERSION. THE COLLOID CHEMICAL PROPERTIES OF DISPERSIONS PREPARED WITH VARIOUS EMULSIFIERS HAVE BEEN EXAMINED. THE SMALLEST PARTICLE SIZE WAS OBTAINED WHEN DISPROPORTIONATED ROSIN WAS USED AS EMULSIFIER. IT HAS BEEN PROVED POSSIBLE TO OBTAIN FILMS FROM BUTYL RUBBER DISPERSIONS. THE PROPERTIES OF THESE FILMS HAVE BEEN ASSESSED. DECREASE IN THE AMOUNT OF EMULSIFIER DURING DISPERSION OR DUE TO SETTLING OF DISPERSIONS SUBSTANTIALLY INCREASES THE FILM STRENGTH.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--THE LEVEL OF NON ESTERIFIED FATTY ACIDS IN THE BLOOD OF THE  
DEVELOPING CHICKS AND ITS HORMONAL REGULATION -U-  
AUTHOR-(103)-MAZINA, T.I., PLISETSKAYA, E.M., LEYBSON, L.G.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, 1970, VOL 6, NR 2,  
PP 172-178  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FATTY ACID, BLOOD PLASMA, BIRD, INSULIN, HORMONE, ADRENALINE,  
NORADRENALIN, ACTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PRXY REEL/FRAME--3005/0363

STEP NO--UR/0385/70/006/002/01727/178

CIRC ACCESSION NO--APO132592

REF ID: A6522

2/2 018

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES HAVE BEEN MADE OF THE CONTENT OF NON ESTERIFIED FATTY ACIDS (NEFA) IN THE BLOOD PLASMA OF CHICKS. THE LEVEL OF NEFA WAS FOUND TO BE DEPENDENT ON THE SEASON OF HATCHING. NEFA CONCENTRATION INCREASES FROM THE 1ST TO 3RD DAYS AFTER HATCHING ATTAINING MAXIMUM TO THE 7TH DAY AND DECREASING ON FURTHER DEVELOPMENT. INJECTIONS OF INSULIN, GLUCAGON AND GROWTH HORMONE RESULT IN A SHARP INCREASE OF NEFA CONTENT IN THE BLOOD PLASMA. THE EFFECT OF ADRENALIN AND NORADRENALIN DEPENDS ON THE INITIAL LEVEL OF NEFA; AT LOW INITIAL CONCENTRATIONS THESE SUBSTANCES INCREASE THE LEVEL OF NEFA, WHEREAS AT HIGH ONES THEY DECREASE IT. THE EFFECT OF ACTH WAS STUDIED IN 5 TO 11 DAYS OLD CHICKS. IT INCREASES NEFA CONTENT ONLY IN 9 DAYS OLD CHICKS BEING INEFFECTIVE IN ALL OTHER CASES. SINGLE INJECTION OF CORTISOL DOES NOT AFFECT NEFA CONTENT IN THE BLOOD PLASMA.  
FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

1/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--EFFECT OF ACUTE AND CHRONIC HYPOXIA ON SOME CHARACTERISTICS OF  
CARBOHYDRATES AND LIPIDS METABOLISM IN RATS -U-

AUTHOR-(04)-SIMANOVSKIY, L.N., PERTSEVA, M.N., ?HELUDKOVÁ, Z.P., HAZINA,

T

COUNTRY OF INFO--USSR

SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 1, PP 77-83

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPOXIA, CARBOHYDRATE METABOLISM, LIPID METABOLISM, RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0361

STEP NO--UR/0301/70/016/001/0077/0081

CIRC ACCESSION NO--AP0132590

CLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132590

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES IN HEXOKINASE AND PHOSPHORYLASE ACTIVITIES, GLYCOLYSIS RATE IN SKELETAL MUSCLES AND FREE FATTY ACIDS CONTENT IN THE PLASMA OF RATS SUBJECTED TO HYPOXIA, IMITATING CONDITIONS (7.600 M OF ALTITUDE DURING 1.5-5 HR) AND DURING THE TRAINING TO HYPOXIC STATE (SIMULATED ALTITUDES 2,800-7,600 M, 30 DAYS) HAVE BEEN STUDIED. IT HAS BEEN SHOWN THAT DURING THE FIRST PERIOD OF ADAPTATION TO THE PROLONGED OXYGEN STARVATION ONE MAY OBSERVE THE PICTURE SIMILAR TO THAT AT ACUTE HYPOXIA: THE LACK OF CHANGES IN HEXOKINASE AND PHOSPHORYLASE ACTIVITIES IN SKELETAL MUSCLES AND ELEVATION IN FREE FATTY ACIDS CONTENT IN BLOOD PLASMA. THE CHANGES IN CARBOHYDRATE METABOLISM WERE NOTED AT 20TH DAY OF TRAINING: THE DECREASE IN HEXOKINASE ACTIVITY AND RISE IN PHOSPHORYLASE A. CHANGES IN GLYCOLYSIS AND GLYCOGENOLYSIS RATE WAS CORRELATED WITH CHANGES IN ENZYHATIC ACTIVITY. FACILITY: I. M. SECHENOV INSTITUTE OF DEVELOPMENTAL PHYSIOLOGY AND BIOCHEMISTRY USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

USSR

UDC 539.3

MAZING, R. I., Moscow

"Contact Problem for a Heavy Hollow Cylinder"

Moscow, Mekhanika tverdogo tela, No. 2, Mar/Apr 72, pp 86-93

**Abstract:** An integro-differential equation for the contact pressure of a heavy hollow cylinder lying in a circular groove of an elastic medium is derived and solved by the Multhopp method. Previous papers by Nalandiya showed that the Multhopp method is convenient for solving contact problems for cylindrical bodies that are in contact over a large segment of their common boundary. The contact zone is found as a function of the weight of the cylinder, the contact pressure, and the stress-deformation state in the cylinder. A numerical example is solved for a cylinder lying on an absolutely rigid base. The Poisson coefficient is assumed equal to  $\nu = 0.3$ . The relationship between the load parameter and the angle of contact is graphed on the basis of the calculations made on the M-20 computer. One curve is constructed for a continuous cylinder and the remaining are for hollow cylinders for  $\rho = 0.3, 0.5, 0.6, 0.7$  and  $0.8$ ;  $\rho = R_0/R_1$ , where  $R_0$  is the radius of the hollow portion of the cylinder

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USSR

MAZING, R. I., Mehanika tverdogo tela, No. 2, Mar/Apr 72, pp 86-93

and  $R_1$  is the total radius of the cylinder. A comparison of the curves shows that the effect of the opening on the magnitude of the contact zone is considerable only for  $\rho > 0.3$ . An increase in the number of interpolation points from 15 to 31 yielded a correction in the fourth or fifth figures, indicating the rapid convergence of the approximate solution to an exact solution.

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- 70 -

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--OPTIMIZATION OF THE DEHYDRATION OF PYROMELLITIC ACID TO ITS

ANHYDRIDE -U-  
AUTHOR-(04)-MAZITOV, M.F., GOLECHEK, A.A., PORTNOV, YU.T., KHANNANOV, T.M.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(5), 580-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DEHYDRATION, PYROMELLITIC ACID, ANHYDRIDE, THERMAL EFFECT,  
PRESSURE, CHEMICAL PURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1971

STEP NO--UR/0032/70/036/005/0580/0582

CIRC. ACCESSION NO--AP0132232

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132232

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STATISTICALLY PLANNED SET OF 20 EXPTS. WAS CARRIED OUT WITH TEMP. (200 PLUS OR MINUS 50DEGREES), PRESSURE (510 PLUS OR MINUS 150 MM), AND TIME (4 PLUS OR MINUS 1.5 HR) AS INDEPENDENT VARIABLES, AND YIELD AND PURITY OF PYROMELLITIC DIANHYDRIDE AS THE RESPONSES. TWO REGRESSION SERIES WERE OBTAINED.

FACILITY: NAUCH.-ISSLED. INST. NEFTEKHIM. PROIZVOD., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 537.312.62

ARSHINOV, V. I., DMITRIYeva, S. K., KANDYBA, P. Ye., KOMAROVSKIKH, N. I.  
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K.

"Film Cryotrons Based on Au-Pb Intermetallic Compounds"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971,  
vyp. 3(29), pp 92-97 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract  
No 12D691)

Translation: The paper describes the manufacturing technique and results of an experimental study of a new type of film cryotron having a diode of intermetallic compounds of gold with lead, and a gate and passive lines of lead. Basic electrophysical indices for the proposed type of cryotron are higher and less sensitive to deviations from given technological conditions than for conventional tin-lead cryotrons. Resumé.

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USSR

UDC 621.395.6-181.48(036.8)

ARSHINOV, V. I., DMITRIYEVA, S. K., KANDYBA, P. Ye., KONAROVSKIY, N. I.,  
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

USSR Author's Certificate No 297129, filed 16 Oct 69, published 6 Apr 71  
(from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11V368 p)

Translation: The proposed method for making diodes for thin-film cryotrons is based on sequential application of films of gold and a superconducting metal. As a distinguishing feature of the patent, a lead film with subsequent annealing at a temperature of 100-120°C is used as the superconducting metal to improve the technique of making the cryotronic integrated microcircuits, to increase speed, and to make the output signal more reliable. Resumé.

1/1

USSR

UDC: 621.3.013.7

ARSHINOV, V. I., BERKOVICH, S. Ya., MASATKIN, V. G., LAPYR, G. M., MAZITOV,  
R. K.

"A Cryotron Thin-Film Integrated Circuit"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyya Obraztsy, Tovarnyye Znaki,  
No 30, 1970, Soviet Patent No 282433, Class 21, filed 19 Jun 69, p 61

Abstract: This Author's Certificate introduces a cryotron thin-film integrated circuit which contains a shielding film of superconductive material, insulating layers, and layers with cryotrons and hook-up elements. As a distinguishing feature of the patent, the possibility of short circuits between elements through the shielding film is reduced and manufacturing technology is simplified by breaking up the shielding film into sections which are electrically insulated from each other and are located on different sides of the layers which contain the cryotrons and the hook-up elements.



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USSR

UDC: 621.318.57

ARSHINOV, V. I., DMITRIYEVA, S. K., KANDYBA, P. Ye., KOMAROVSKIKH, N. I.,  
LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
No 9, Mar 71, Author's Certificate No 297129, Division H, filed 16 Oct 69,  
published 2 Mar 71, p 176

Translation: This Author's Certificate introduces a method of making diodes  
for thin-film cryotrons. The procedure is based on sequential application  
of gold and superconducting metal films. As a distinguishing feature of the  
patent, the technology of making cryotron integrated circuits is improved  
and the speed and output signal voltage of the cryotrons are increased by  
using a lead film as the above-mentioned metal with subsequent annealing at  
100-120°C.

1/1

I/2 024 UNCLASSIFIED PROCESSING DATE--30 OCT 70  
TITLE—BOILING CRISIS IN LONGITUDINAL FLOW PAST ROD BUNDLES -U-

AUTHOR—(03)—TOLUBINSKIY, V.I., MAZKA, S.A., VASILEV, A.A.

COUNTRY OF INFO—USSR

SOURCE—HEAT TRANSFER Sov. Res.; 2: 1-6 JAN 1970

DATE PUBLISHED—70

M

SUBJECT AREAS—PHYSICS

TOPIC TAGS—HEAT TRANSFER RATE, BOILING, TWO PHASE FLOW, METAL ROD

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/1138

STEP NO--US/0000/70/002/000/0001/0006

CIRC ACCESSION NO--AP0124793

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0124793

UNCLASSIFIED

PROCESSING DATE--30OCT7C

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS ESTIMATE, OBTAINED BY ANALYSIS OF SOVIET AND WESTERN PUBLICATIONS ON THE HEAT TRANSFER CRISIS IN ROD BUNDLES IN LONGITUDINAL FLOW, OF THE POSSIBLE EFFECT OF VARIOUS GEOMETRIC CHARACTERISTICS OF MULTIROD ASSEMBLIES ON THE CRITICAL HEAT FLUX DENSITY IS PRESENTED.

FACILITY: INST. OF ENGINEERING THERMOPHYSICS, KIEV.

UNCLASSIFIED

USSR

UDC 669.187.26.065.5:669.24.5:534.321.9

MAZLENKOV, S. B., and RUTES, O. V., Central Scientific Research Institute of Ferrous Metallurgy

"Effect of Ultrasonic Treatment During Crystallization on Microchemical Heterogeneity and Anisotropy of Properties in Nickel-Base Heat-Resistant Alloys"

Moscow, Stal', No 8, Aug 73, pp 752-756

**Abstract:** The effect of ultrasonic treatment in the process of crystallization on alloy homogeneity and anisotropy of mechanical properties (relative elongation and reduction in area) was studied for nickel-base heat-resistant alloys EP109 (KhNi56VMKYu) and EP220 (KhNi51VMTYuKFR), where it was found that disintegration of the dendritic structure is increased which leads to lowering of the relative percentage of interaxial space volume and to increased homogeneity. During ultrasonic treatment a more effective chemical and structural homogenization is achieved for hot reduction and heat treatment. The effect of ultrasonic treatment depends on the nature of the phases and intermetallic compounds formed. In alloy EP220, with congruently fused intermetallides, significant grain refinement occurs and mechanical properties are more isotropic. In alloy EP109 the effect of ultrasonic treatment is less. Five figures, eight bibliographic references.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--OBSERVATION OF PLASMA SATELLITES NEAR THE FORBIDDEN LINES DURING  
TURBULENT HEATING OF A PLASMA -U-  
AUTHOR-(05)-ZELENIN, G.V., KUTSYN, A.A., MAZNICHENKO, M.YE., PAVLICHENKO,  
O.S., SUPRUNENKO, V.A.  
COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKoy FIZIKE, 1970, VOL 58,  
NR 6, PP 1879-1883  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TURBULENT PLASMA, SATELLITE, GAS DISCHARGE, FORBIDDEN BAND,  
ELECTRON DENSITY, PLASMA OSCILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/1727

STEP NO--UR/0056/70/058/006/1879/1883

CIRC ACCESSION NO--AP0120439

UNCLASSIFIED

2/2 034

CIRC ACCESSION NO--AP0120439

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SATELLITES IN A TURBULENT PLASMA OF A STRONG CURRENT LINEAR GAS DISCHARGE (Z PINCH) HAVE BEEN DETECTED AND INVESTIGATED NEAR THREE FORBIDDEN LINES OF HEL. THE SATELLITES HAVE BEEN PREDICTED BY BARANGIER AND MOSER. TIME MEASUREMENTS OF THE POSITION AND INTENSITY OF THE SATELLITES YIELD THE ELECTRON DENSITY AND THE TIME VARIATION OF THE LEVEL OF THE PLASMA OSCILLATIONS. OBSERVATION OF SATELLITES IS A NEW CONTACTLESS METHOD FOR INVESTIGATING A TURBULENT PLASMA. FACILITY: FIZIKO-TEKHNICHESKIE INSTITUT AN UKR. SSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--OPTICAL STUDY OF THE DESTRUCTION OF A GLASS FIBER DURING ALKALINE  
TREATMENT -U-  
AUTHOR-(03)-MAZO, E.E., KAMINSKAYA, V.S., SHARAY, V.N.

COUNTRY OF INFO--USSR 

SOURCE--DOKL. AKAD. NAUK BELDRUSS. SSR 1970, 14(3), 226-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GLASS FIBER, BOROSILICATE GLASS, SOLUTION ALKALINITY,  
ZIRCONIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/1139

STEP NO--UR/0250/T0/014/003/0226/0229

CIRC ACCESSION NO--AT0119993

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 016  
CIRC ACCESSION NO--AT0119993  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIBERS OF GLASS CONTG. 14PERCENT  
AND 8.5PERCENT ZRO SUB2 AND OF ALKALI FREE ALUMINOBOROSILICATE GLASS  
WERE EXPOSED TO 2, 4, AND 6 N NAOH FOR 2-112 HR AND THEN EXAMD. UNDER  
THE MICROSCOPE. THE ALKALI RESISTANCE INCREASES WITH THE ZRO SUB2  
CONTENT. THE REACTION PROCESS CONSISTS OF HYDRATION, SURFACE LAYER  
DESTRUCTION, AND THE FORMATION OF AN INTERMEDIATE LAYER.  
FACILITY: INST. OBRSHCH. NEORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--LOW FREQUENCY VIBRATIONS OF RHODIUM FORMATE AND ACETATE -U-

AUTHOR--(03)-Kharitonov, Yu.Ya., Mazo, G.Ya., Knyazeva, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1440-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--RHODIUM COMPOUND, FORMIC ACID, ACETATE, IR SPECTRUM, RAMAN SPECTRUM, VIBRATION FREQUENCY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0953

STEP NO--UR/0078/70/015/005/1440/1441

CIRC ACCESSION NO--AP0137981

UNCLASSIFIED

2/2 029  
CIRC ACCESSION NO--APO137981

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LOW FREQUENCY IR ABSORPTION MAX.  
OF RH SUB2 (HCO SUB2) SUB4 .2H SUB2 O, RH(DCO) SUB21 SUB4 .2H SUB2 O, RH  
SUB2 (HCO SUB2) SUB4 .2D SUB2 O, RH(ACO) SUB4 .2H SUB2 O, AND RH SUB2  
(CD SUB3 CO SUB2) SUB4 .2H SUB2 O ARE GIVEN. RAMAN VIBRATIONAL  
FREQUENCIES OF RH-RH BONDS, NOT PRESENT IN IR SPECTRA, ARE AT 168 AND  
155 CM PRIME NEGATIVE1.  
IM. KURNAKOVA, MOSCOW, USSR.

FACILITY: INST. OBSHCH. NEORG. KHIM.

UNCLASSIFIED

USSR

UDC: 532.555 4

MASEYEV, M. V., MAZO, I. S.

"A Dynamic and Static Pressure Gauge"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 7, Mar 72, Author's Certificate No 328476, Division G, filed 16 Apr 70,  
published 9 Feb 72, p 179

Translation: This Author's Certificate introduces a dynamic and static pressure gauge made in the form of a tube with convergent input channel. A Pitot tube is located in the flow section of the gauge tube, and there is an opening in the flow section for takeoff of static pressure. As a distinguishing feature of the patent, the device is designed for improved precision in measuring pressure in an oblique flow over a range of up to  $\pm 40^\circ$  in cavitationless liquid flow and at subsonic velocities in air. The outer surface of the tube with convergent channel input is streamlined, and a sharp trailing edge is formed where the outer surface intersects with the inner cylindrical surface at the end. The flow cross section of this tube is identical from beginning to end in its cylindrical part.

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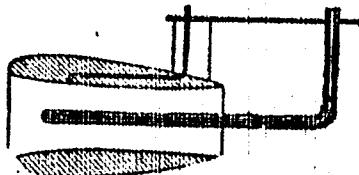
- 163 -

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1

USSR

MASEYEV, M. V., MAZO, I. S., USSR Author's Certificate No 328476



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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002202010012-1"